

[illegible]

- (i) cationic cellulose derivatives,
  - (ii) dimethyldiallylammonium halide homopolymers,  
dimethyldiallylammonium halide copolymers, and (meth)acrylic acid  
copolymers,
  - (iii) methacryloyloxyethyltrimethylammonium halide homopolymers and  
methacryloyloxyethyltrimethylammonium halide copolymers,
  - (iv) polyquaternary ammonium polymers, and
  - (v) vinylpyrrolidone polymers comprising at least one cationic unit; and
- (d) at least one oxidation base,

in a support suitable for keratin fibers.

31. A ready-to-use composition as claimed in claim 30, wherein said at least one oxidation base is selected from para-phenylenediamines, double bases, ortho-aminophenols, para-aminophenols, heterocyclic bases, and acid addition salts of any of the foregoing.

32. A ready-to-use composition as claimed in claim 31, wherein said acid addition salts are selected from hydrochlorides, hydrobromides, sulphates, tartrates, lactates and acetates.

33. A ready-to-use composition as claimed in claim 30, wherein said at least one oxidation base is present in an amount ranging from 0.0005% to 12% by weight relative to the total weight of the ready-to-use composition.

34. A ready-to-use composition as claimed in claim 30, further comprising a least one coupler.

35. A ready-to-use composition as claimed in claim 34, where said at least one coupler is selected from meta-phenylenediamines, meta-aminophenols, meta-diphenols, heterocyclic couplers, and acid addition salts of any of the foregoing.

36. A ready-to-use composition as claimed in claim 35, wherein said acid addition salts are selected from hydrochlorides, hydrobromides, sulphates, tartrates, lactates, and acetates.

37. A ready-to-use composition as claimed in claim 34, wherein said at least one coupler is present in an amount ranging from 0.0001% to 10% by weight relative to the total weight of the ready-to-use composition.

38. A ready-to-use composition as claimed in claim 30, further comprising at least one direct dye.

39. A ready-to-use composition as claimed in claim 30, where said support which is suitable for said keratin fibers is chosen from water and a mixture of water and at least one organic solvent.

40. A ready-to-use composition as claimed in claim 39, wherein said at least one organic solvent is present an amount ranging from 1% to 40% by weight relative to the total weight of the ready-to-use composition.

41. A ready-to-use composition as claimed in claim 40, wherein said at least one organic solvent is present an amount ranging from 5% to 30% by weight relative to the total weight of the ready-to-use composition.

42. A ready-to-use composition as claimed in claim 30 having a pH ranging from 5 to 11.

43. A ready-to-use composition as claimed in claim 42 having a pH ranging from 6.5 to 10.

44. A ready-to-use composition as claimed in claim 30, further comprising at least one cosmetic adjuvant selected from anionic surfactants, cationic surfactants, nonionic surfactants, amphoteric surfactants, zwitterionic surfactants, anionic polymers, cationic polymers, nonionic polymers, amphoteric polymers, zwitterionic polymers, inorganic thickeners, organic thickeners, antioxidants, enzymes other than said 2-electron oxidoreductases, penetration agents, sequestering agents, fragrances, buffers, dispersing agents, conditioners, film-forming agents, preserving agents, and opacifiers.

45. A method for dyeing keratin fibers comprising applying a ready-to-use composition to said fibers for a time sufficient to achieve a desired coloration, wherein said ready-to-use composition comprises:

- (a) at least one enzyme chosen from 2-electron oxidoreductases;
- (b) at least one donor for said at least one enzyme;
- (c) at least one substantive polymer selected from:

- (i) cationic cellulose derivatives,
  - (ii) dimethyldiallylammonium halide homopolymers,  
dimethyldiallylammonium halide copolymers, and (meth)acrylic acid  
copolymers,
  - (iii) methacryloyloxyethyltrimethylammonium halide homopolymers and  
methacryloyloxyethyltrimethylammonium halide copolymers,
  - (iv) polyquaternary ammonium polymers, and
  - (v) vinylpyrrolidone polymers comprising at least one cationic unit; and
- (d) at least one oxidation base.
46. A method for dyeing keratin fibers comprising:
- (a) storing a first composition,
  - (b) storing a second composition separate from the first composition,
  - (c) mixing the first composition with the second composition to form a  
mixture,
  - (d) applying the mixture to the keratin fibers for a time sufficient to achieve a  
desired coloration,

wherein the first composition comprises at least one oxidation base in a support  
suitable for dyeing,

wherein the second composition comprises at least one enzyme chosen from 2-  
electron oxidoreductases, at least one donor for said at least one enzyme, and at least

one substantive polymer in a support suitable for dyeing, wherein said at least one substantive polymer is selected from:

- (i) cationic cellulose derivatives,
- (ii) dimethyldiallylammonium halide homopolymers, dimethyldiallylammonium halide copolymers, and (meth)acrylic acid copolymers,
- (iii) methacryloyloxyethyltrimethylammonium halide homopolymers and methacryloyloxyethyltrimethylammonium halide copolymers,
- (iv) polyquaternary ammonium polymers, and
- (v) vinylpyrrolidone polymers comprising at least one cationic unit.

47. A method for dyeing keratin fibers as claimed in claim 46, wherein the first composition further comprises at least one coupler.

48. A multi-compartment kit for dyeing keratin fibers comprising:

- (a) a first compartment comprising a first composition, and
- (b) a second compartment comprising a second composition,

wherein the first compartment comprises at least one oxidation base in a support suitable for dyeing,

wherein the second compartment comprises at least one enzyme chosen from 2-electron oxidoreductases, at least one donor for said at least one enzyme, and at least one substantive polymer in a support suitable for dyeing, wherein said at least one substantive polymer is selected from:

- (i) cationic cellulose derivatives,
- (ii) dimethyldiallylammonium halide homopolymers, dimethyldiallylammonium halide copolymers, and (meth)acrylic acid copolymers,
- (iii) methacryloyloxyethyltrimethylammonium halide homopolymers and methacryloyloxyethyltrimethylammonium halide copolymers,
- (iv) polyquaternary ammonium polymers, and
- (v) vinylpyrrolidone polymers comprising at least one cationic unit.

49. A multi-compartment kit as claimed in claim 48, wherein the first compartment further comprises at least one coupler.

50. A method for treating keratin fibers to obtain a permanent reshaping of said keratin fibers comprising:

(a) applying a reducing composition to said keratin fibers, wherein said fibers are placed under mechanical tension before, during, or after the application of said reducing composition, and

(b) applying an oxidizing composition to said keratin fibers, wherein said oxidizing composition comprises at least one enzyme chosen from 2-electron oxidoreductases, at least one donor for said at least one enzyme, and at least one substantive polymer in a support suitable for dyeing, wherein said at least one substantive polymer is selected from:

- (i) cationic cellulose derivatives,
- (ii) dimethyldiallylammonium halide homopolymers,

dimethyldiallylammonium halide copolymers, and (meth)acrylic acid copolymers;

- (iii) methacryloyloxyethyltrimethylammonium halide homopolymers, and methacryloyloxyethyltrimethylammonium halide copolymers,
- (iv) polyquaternary ammonium polymers, and
- (v) vinylpyrrolidone polymers comprising at least one cationic unit.

51. A method for treating keratin fibers to obtain a permanent reshaping of said keratin fibers as claimed in claim 50, further comprising rinsing the compositions from the keratin fibers.--

#### **REMARKS**

Claims 1-29 have been canceled and claims 30-51 are now added. It is submitted that support for these new claims can be found in the original specification and claims. Care has been taken so that no new matter has been added. Applicants now await an action on the merits. If the Examiner believes a telephone conference would be helpful in advancing the prosecution of this application, the Examiner is respectfully urged to contact Applicants' undersigned representative at (202) 408-4454.



Please grant any extensions and charge any additional required fees to our deposit account 06-0916 if necessary.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW  
GARRETT & DUNNER, L.L.P.

By: Thalia V. Warnement  
Thalia V. Warnement  
Reg. No. 39,064

**Dated: April 12, 2001**